

The Global Health CHRONICLES

MALARIA CONTROL: CDC BEGINNINGS

Name: Bauer, Theodore J., MD, Chief of CDC 1953-56

Date: 1984 by Bill Watson AND Bill Foege

Summary of Interview:

Dr. Ted Bauer describes his time working in the Public Health Service's Venereal Disease Program before coming to CDC. Surgeon General Parran chose Dr. Bauer, for special training and he continued to be singled out for special attention by him and others in the public health leadership. During his years as Chief of CDC, he had the challenges of fighting to keep CDC in the Public Health Service, growth of the laboratory sections, defining CDC's role with state health departments, clarifying the different roles of NIH and CDC, and having to testify before the McCarthy Committee. He also talks of the difficulties in eliminating duplication of services within CDC and coordinating their efforts on similar projects.

Notable Quotations from Interview:

On testifying before the McCarthy Committee: *"They had a warehouse downtown, four stories completely filled with shovels, jacks, motor boats, out board motor boats and we're talking about hundreds of thousands of items [after WW II]. And they were in the process of getting rid of this and that plus audiovisual had developed rather well by that time and there were a few people within the organization who were being dismissed because of cut in budget and they, in turn, rumor has it, peddled information to the McCarthy committee concerning this equipment being mishandled. And they spent a lot of time justifying equipment and collecting equipment from all over the country and disposing of it. I don't think anyone can realize the fear and trepidation that one had during the McCarthy period because you never knew when you were going to be called and for what. I testified once when I was in the venereal disease division before the McCarthy committee and when I left the room, one of my friends on the Stafford Committee said the chairman of it who was a staff member [said] 'You know, he came clean but I know there's something wrong with him.'"*

On Seward Miller's recruiting: *"I think a great deal of credit must be given to Seward Miller because he was a 'pied piper' as far as a recruiter is concerned. He took advantage of the war. See, the war just didn't stop when it was over. It lingered on in the mentality of the people administering the government agency and so forth and he hired the real top leaders in the wide variety of microbiological fields."*

On coordinating programs at CDC: *"I just could make one other point and that is one of the administrative problems was that these divisions had strong leadership, each one of them. There was now evidence of coordination between them and there was a duplication of efforts in that some of the branches were developing their own laboratories and some of the laboratories were developing their own epidemiology and so forth. It took a little persistence. The coordination of the branches on similar projects was one of the most difficult things to do the first year even to the point it took a while to settle these men down in the chair at the conference table. It's an important point because it's a difficulty, I think, faced for almost 30 years how to really integrate the resources at CDC."*

On CDC's reputation in the early years: *"...of course, Dr. Langmuir had two great facilities; he was one of the finest recruiters that public health service ever had and he was a wonderful communicator. I think our reputation was more in trouble intra-governmentally, federal government than it was otherwise. Remember the mission was for control of malaria. Malaria was controlled, the war mentality was over. There was a great deal of concern as to whether or not there was a future need for CDC. Not only the administration but the Congress spent considerable time holding hearings usually associated with the budget as to whether or not the CDC was not a duplication of the National Institute of Infectious Disease."*

Key Terms in Interview:

Depression; Merchant seaman; NIH; syphilis; Pendergrast machine; VD; penicillin; vector-borne control; Nete resistance; Armed Forces Epidemiologic Board Or Commission; sanitary engineering; classification of bacteria and viruses; amoebiasis; medical entomologists; typhus; rabies; plague; National Institute of Infectious Disease; Malaria; Polio Foundation; gammaglobulin; Insectivorous bats; Negri bodies; College of Pathologists; aerosol; tetracycline; anthrax; Hooper Foundation; Lease Purpose Act; National Polio Foundation; Cutter Vaccine; Sabin Vaccine; Salk vaccine; biological warfare; yellow fever; CPL virus; tuberculosis; leprosarium; field stations; Schistosomiasis field station; smallpox; Rosebank quarantine station; carcinomatosis; cocksackie polio-like paralysis; chronic disease; electrophoresis; acid-fast bacillus; leprosy

Key People Mentioned in Interview:

Allen, Ernest
Anderson, Dr. Otis
Bernie, Surgeon General
Leroy
Buck, Ross
Bunch, Richard
Bundeson, Dr. Herman N.
Cazette, Felix
Clark, Dr. William
Constantine, Dr. Denny
Cunningham, Dr.
Edwards, Philip
Eichenwald, Heinz
Eisenhower, Ike
Fleshman, Don
Foege, Bill
Frances, Thomas
Frobisher, Martin
Hansen, Chris
Hardy, Albert
Harris, Ed
Heath, Frank
Heller, Dr. Rod
Henderson, D.A.
Hogan, Ralph
Johnwick, Edgar
Jones, Boisfeuillet
Kurfie, Dr. Ted
Lee, C.P.
Mahoney, Dr. _____
McCarthy, Sen. Joseph
Meyer, Karl
Miller, Seward
Mountin, Joseph

O'Connor, Basil
O'Lansky, Sidney
O'Leary, Dr. Paul
Olansky, Sidney
Parran, Thomas
Parsons,
Perrabie, Shirley
Portnoy, Joe
Price, Dave
Price, Dr. David
Roosevelt, Franklin D.
Russell, Dick
Salk, Jonas
Schaeffer, Morris
Scheele, Leonard
Sencer, David
Shannon, Dr. _____
Shepherd, Charlie
Shuey, Dr.
Simmons, Sib
Smith, Larry
Steele, Jim
Stokes, Joseph
Talmadge, Herman
Tierkle, Ernie
Tisdale, Dr. Alec
Updyke, Elaine
VanSlyke, Cassius
Vonderlehr, Dr. Raymond
Watson, Bill
Watt, Jim
Williams, Charles
Woodruff, Robert



Theodore J. Bauer, MD, CDC Chief 1953-1956

Photo retrieved from: <http://www.cdc.gov/about/history/pastdirectors.htm>

I'm Bill Watson, the Deputy Director of CDC and with me here today is Dr. William Foege, currently the Director of CDC, and Dr. Theodore J. Bauer who was a former Chief of CDC. The title was different in Dr. Bauer's day, they were called Chief rather than Director. And the purpose of our session today is to talk to Dr. Bauer about his years at CDC. But first, Dr. Bauer, I'd like to ask you about your earlier career in the public health service. I've been around the service for quite a few years myself and I know that it has changed and I think it would be helpful if you could tell us about the career that you had prior to coming to head up CDC.

Bill, I was a creature of the Depression and sought some form of remuneration with my internship, and being a middle westerner knew very little about the public health service or the merchant seaman. So it was the most fortunate thing that ever happened to me. I interned in Staten Island beginning 1933 and went to Michael Reese Hospital and Medical Center (?) which was called U.S. Main Hospital in those days, in Chicago for a year and a half about which time Parran came on board as Surgeon General and he picked a group of, excuse the expression, 'young fellows' to go into training and I was chosen and sent to Hot Springs, Arkansas and ended up spending two years there, following which I went to the National Institutes of Health for a year's orientation which was pretty much a pattern in those days prior to sending people to postgraduate schools of public health, and took as a part—most of my training during that period at Hot Springs, Arkansas was in venereal disease control, specifically syphilis and I was very fortunate that it was more in medicine than dermatology.

The public health service had an inpatient venereal disease facility in Hot Springs.

It had a very large outpatient facility and about a 200-bed inpatient facility which was a part of the depression effort. It was a transit bureau camp that was the only transit bureau camp that you had to have syphilis to be eligible to get into.

But after that money was appropriated to be able to work in venereal disease control and Dr. Rod Heller and myself were the two first regional directors for venereal disease control, and because I was a bachelor I was assigned to the 11 western states because there wasn't a man to stay in the field most of the time. But I didn't know that and got married on route and I spent from 1938-41 there.

Where is that?

In San Francisco in the 11 western states as a consultant and it was a very desirable job although it was all sorts of travel. Fortunately, I didn't have a family to go back to, my family was with me.

Traveled by train in those days.

Train and automobile. We stayed a period of six weeks in places like Salt Lake City or Phoenix and having some grant monies we were actually beginning to develop a program of civilian venereal disease control and the potential containment areas. And in 1941 the Pendergast machine in Kansas City was thrown out and I was assigned to establish the venereal disease program and I stayed there a year at which time World War II broke out.

In the state of Missouri?

No, in Kansas City, Missouri.

The city.

City. The Pendergast machine was in the city. And lo and behold one day I got a telegram saying you are hereby directed to go to Chicago and report to Dr. Herman N. Bundeson to be venereal disease control officer there, and that was supposed to be a six-month assignment and I stayed six years.

In Chicago.

In Chicago and I think that was one of the most informative and helpful developments in my whole career because Bundeson was a very dynamic man, totally devoted to venereal disease control because it was during the War. Following that I became chief for the venereal disease division for four years at which time I had the pleasure of meeting you, Bill.

That's right, in 1948.

'48 and it was a very difficult time then because penicillin became an outpatient treatment. Prior to that it had to be inpatient because it was given every four hours around the clock and we had the problem of disposing of, I believe it was—was it 26 hospitals? Well, approximately 20 hospitals and all the equipment and so forth that went with that and that is when, I think it was 1949 that the incidence of early syphilis began to go down. That, plus the high cost of inpatient care gave the bureau of the budget and other people an opportunity to cut the budget back very severely from about \$18 million which at that time was four times as high as the whole NIH appropriation.

It was, I think, the single largest appropriation for any program in the public health....

Yes, it was four times as large as all the NIH. And lo and behold one day I was brought into the office and was told that I was going to the Center for Disease Control to direct that, and I remember very well having lunch with the Surgeon General who was Leonard Scheele and I said, well Len, when you get down there, it's obvious that they're going to need new buildings. At that time he was involved in all the new buildings and he says, "Well it would be nice but they're not necessary," which, to try and get a building, you know. So that's how I got there.

I see. In those days a decision like that would have been made by the Surgeon General in consultation with the bureau directors and you were the person to head up—

And the decision would be made by the Surgeon General in consultation with the bureau chief which was my immediate superior at that time, and it was Dr. Mountin for a short period. Prior to that it was Charles Williams and after that Otis Anderson. Most of the time I was there it was Otis Anderson and got complete support from him.

Unlike today where we have search committees and look the world over for people to fill positions.

.....much more complicated run nowadays.

Right.

At the time you became Chief, CDC was about seven years old and I'm curious about the kind of reputation CDC had both in the United States, internationally and then what did you find here? What were the priorities? What were the problems? What were the challenges at that point?

Bill, when you say CDC was seven years old, are you including in that Malaria Control for War—

No, I was thinking of the start in 1946 as CDC.

Well, actually when I came here in October of 1952, the facilities were scattered throughout four cities: Atlanta, Chamblee, Savannah and Montgomery. Most of the buildings were temporary. A great many of them were a holdover from World War II. There was a plot of ground given to the federal government for the purpose of building CDC and that is the land in which this building is now on, and because of this, the center had a very good facility planning office under a man by the name of Chris Hansen and his assistant was Ross Buck, and the plans are pretty well developed but there had been absolutely no action.

I'd like to say a word about the equipment because this is one of the most troublesome things I've found. Of course, this was a very large wartime operation and it had a tremendous amount of heavy equipment—literally hundreds of cars. I don't know whether it was four or five or six hundred cars gathered throughout the United States—so many cars that it actually ran its own garage on Peachtree and was a facility that took customers from other government agencies, to give you some of the complexity.

They had a warehouse downtown, four stories completely filled with shovels, jacks, motor boats, out board motor boats and we're talking about hundreds of thousands of items. And they were in the process of getting rid of this and that plus audiovisual had developed rather well by that time and there were a few people within the organization who were being dismissed because of cut in budget and they, in turn, rumor has it, peddled information to the McCarthy committee concerning this equipment being mishandled. And they spent a lot of time justifying equipment and collecting equipment

from all over the country and disposing of it. I don't think anyone can realize the fear and trepidation that one had during the McCarthy period because you never knew when you were going to be called and for what. I testified once when I was in the venereal disease division before the McCarthy committee and when I left the room, one of my friends on the Stafford Committee said the chairman of it who was a staff member [said], "You know, he came clean but I know there's something wrong with him."

And it was on Felix Cazette's publication that the venereal disease division bought and put in the military. Do you remember Felix Cazette from the North Carolina State Health Department? Okay. So that was a very troublesome problem so it was still a transition from the war operation—

Yeah, the malaria program.

Dr. Langmuir had been on board for about a year. There were two strong programs at that time. One was the laboratory section. I think a great deal of credit must be given to Seward Miller because he was a 'pied piper' as far as a recruiter is concerned. He took advantage of the war. See, the war just didn't stop when it was over. It lingered on in the mentality of the people administering the government agency and so forth and he hired the real top leaders in the wide variety of microbiological fields.

Dr. Miller headed up the lab?

The laboratory before Dr. Hogan. He hired such people as Frobisher, the microbiologist, Dr. Parsons in diphtheria, Edwards in the diarrhea—I'm trying to think of the name of the lady in streptococcus.

Elaine Updyke?

Elaine Updyke. And it was a whole group of major leaders and they were highly respected throughout the academic world but principally in the public health field, both at the state health laboratory and the local large city health department.

The other strong group was the vector control. Of course, they were heavily involved in not only the study of the various vectors that transmitted disease but also in the Nete resistance and the toxicity of economic poisons and they had a large installation under, I think, a very strong leader by the name of Dr. Samuel Simmons, Sib Simmons. The training branch was a—

The two big ones were the lab and the vector-borne disease program.

Yes, and the training branch, there were four and I've named two of them, I'll name the other two now. This reorganization took place about a year before I came here. The other one was the training branch which was really oriented to vector control, sanitary engineering, and had very little of the practical medical aspects of public health and its staff was under Dr. Alec Tisdale who was a senior engineer, a very fine educator. And this remained mainly an engineering function for a long time. With saying that, I must say that there were strong training programs in the other branches, particularly in the laboratory which was well respected for references diagnosis at that time for consultation, for classification of bacteria and viruses and for training. Most of the old technology branch with the vector control branch training was done at the training branch.

The last and one of the most interesting directors to last and that's the epidemiology branch. Langmuir came on board, I would say one year to 18 months before October 1952. He came out of the, I believe, the Armed Forces Epidemiologic Board Or Commission with a very fine reputation and his first endeavor which proved to be a very prudent one was to recruit young medical officers, a very select group. Most of these men had the problem, or the advantage as you might put it, of carrying out their military obligations. The program at that time literally consisted of bringing these men on board, giving them an excellent short term orientation course and assigning them to prominent men throughout the country and then bringing them back in.

You're talking about researchers?

Researchers, yes.

In academic settings.

Practically all in academic set—there were a few exceptions, a place like New York City which had a strong research foundation as an integral part of the health department and several state health departments, California, so forth. But I think if you do a study that you'll find a great many went to virologists and epidemiologists and some to individuals carrying out the responsibilities of CDC on a quasi-contractual basis. What do I mean by that? Jim Watt was in New Orleans. He was a part of the National Institute of Infectious Diseases but his budget was supported by CDC. Albert Hardy who was well known in amoebiasis brucellosis and other diarrheal, from Florida, had been assigned to him and one of the first things that became evident as the budget shrank was that we brought those activities back in to the fold to become an integral part.

Can I say a word about budgets before I do to the mission? This was the beginning of the Eisenhower administration. Our budget was roughly—and the records will reveal

the exact amount—six million or six and a half million dollars, and we were told we'd take about a 30% cut and of course without grants that meant that you had to let people go which is always much more difficult than demonstrations of grants or advertising or some other activity. One of the prominent factors of CDC at that time was that it had an abundance of medical entomologists to the extent that they were doing a lot of taxonomy and classification of flies and mosquitoes and so forth and this was an area which was less needed as the mission changed. Many of these people were placed in NIH particularly in executive secretarial positions in the consuls and study sections and did a very excellent job there.

But it was a time of turmoil and a time of nervousness because no one knew just what the future held. Like so many cuts, it served a useful purpose. It gave an opportunity to clean out some dead wood. Of course, it also put some more blood on your fingers which is always difficult.

The mission, as you know, when this place was established was to eradicate malaria. By the time I got here most of the activities on a project-by-project basis was in what I—the less frequent infectious diseases like typhus, rabies, plague. I know these things are still here, excuse the pun, the plagues there was little done in the total field of medical epidemiology and so forth so there was a need and a time to change the mission to what was characterized as the development and research and better methods for controlling infectious diseases by assisting the state and territorial local health departments which is the true basic mission. I might add that at that time venereal disease control and tuberculosis was a part of this organization although the venereal disease research laboratory was out there as a tenant, but the administration of it was closely guarded by the venereal disease division in Washington.

So I think we've covered the four branches that existed here. I just could make one other point and that is one of the administrative problems was that these divisions had strong leadership, each one of them. There was now evidence of coordination between them and there was a duplication of efforts in that some of the branches were developing their own laboratories and some of the laboratories were developing their own epidemiology and so forth. It took a little persistence. The coordination of the branches on similar projects was one of the most difficult things to do the first year even to the point it took a while to settle these men down in the chair at the conference table. It's an important point because it's a difficulty, I think, faced for almost 30 years how to really integrate the resources at CDC.

Let me go back to just a number of things. I suspect most people forget that you had rifts 30 years ago. We tend to think of CDC as having a steady growth. But going back to that time I'd like to return to the question of reputation. I'm always intrigued by the fact that CDC in the 1950s very quickly developed a reputation for quality. Why? What

is it that went on here that was perceived by the states and internationally as being important and good and people called on you. Well, I think a lot had to do with the strength of the professional staff.

As I mentioned previously, the laboratory had an international leader in practically every aspect that microbiology, and we haven't discussed virology but this is true there. I think the vector control people were some of the finest in the country and then, of course, Dr. Langmuir had two great facilities. He was one of the finest recruiters that public health service ever had and he was a wonderful communicator. I think our reputation was more in trouble intra-governmentally, federal government than it was otherwise. Remember the mission was for control of malaria. Malaria was controlled, the war mentality was over, there was a great deal of concern as to whether or not there was a future need for CDC. Not only the administration but the Congress spent considerable time holding hearings usually associated with the budget as to whether or not the CDC was not a duplication of the National Institute of Infectious Disease.

At NIH.

At the National Institutes of Health, yes. This was the old Allergy Infectious Disease that the public health service headquarters had its hands full justifying the new expansion of NIH.

A very interesting thing happened at that time which sounds like a minor thing in retrospect but wasn't. There had been established a clinical laboratory at Grady Hospital under—gee, I can't remember who was the director but the significant part was that for the use of the facility we gave Grady Hospital services and clinical laboratory diagnosis that they were incapable of doing themselves, and through some quirk, a local clinical pathologist got in disrepute with the manager of the total Grady Hospital and the one thing he brought up as a problem was that the federal government was in the private practice of clinical pathology and they passed a resolution in the College of Pathologists that that laboratory should be closed. It sounds very insignificant but that thing in the Surgeon General's office and in the congressional office and a Dr. Cunningham from Alabama and a Dr. Ted Kurfie from New York City were trustees and they actually went and defended this laboratory. Now that doesn't sound like it would rattle the foundation of a program but it did for about six months—another tenet that they need fewer of in Washington. Just to end that part of the reputation and we'll get to the other, finally over a period of months Dr. Shannon and our bureau of chief, who was Dr. Anderson at the time, established a joint paper showing the need for CDC and this was placed in the congressional record.

Dr. Shannon was Director of the National Institutes of Health.

No, Dr. Shannon was Director of the National Institutes of Health and Dr. Otis Anderson was Chief of the Bureau of States Services which CDC was a division thereof. And following that the appropriations and the justifications became much easier. As to reputation, I think you move over into 1953 and '54 from the standpoint of some of the outstanding things that happened that caused this. 1953-54 was one of the most exciting years that I think I've ever experienced. During this period of time there were several unusual occurrences; one was that the vaccines for polio were still not available but there was a great push by the Polio Foundation and others to establish a national center for the evaluation of gamma globulin. And the one place they had an opportunity for epidemiologic help and resources was Dr. Langmuir's branch and well trained young enthusiastic men were assigned to a variety of places, and through this CDC got to be better known within the health departments and the medical schools and so forth.

Also, during this same period of time we had some very unusual outbreaks, the first of which was a case of a young girl being bitten by a bat in Florida one hot summer afternoon. I believe this was 1953 or 1954. This, of course, received national coverage and it just couldn't be true but there was an old rancher who had worked in South America and understood bats and rabies. Of course, we always were under the impression we didn't have bats and rabies in this country because all our bats were insectivorous rather than bloodsucking. That rancher collected this bat and took it to the health department and in turn they found positive Negri bodies for rabies and sent it to our laboratory and lo and behold we did so. This caused a surveillance of bats in this country and it literally come down to the fact you could almost find rabies in bats wherever you looked for them. Then, of course, the first thing that struck everyone's mind was you got the caverns in New Mexico where they have literally millions of it in the dung or whatever you call it from bats was about two feet deep. And they put some animals in that particular cave within screened cages where these bats obviously could not get to the animals, and these animals came down with rabies which identified an aerosol transmission. There are a couple of other—

Who was doing that work? Was Dr. Denny Constantine involved?

Very much so and about that time Dr. Langmuir was training veterinarians, nurses and statisticians and the parties epidemiological group and there were several good young veterinarians under Jim Steele, and Ernie Tierkle was involved because he had been head of the project testing avian vaccines in a dog pond we had....for three years.

In addition to that, one afternoon we got a report from Lampaso, Texas that there was an outbreak of pneumonia in a group of workers in a turkey processing plant. Dr. Steele and I were going to the West Coast for some reason and we stopped in Lampaso and the pathology was just remarkable, the pericarditis. And the pneumonia in these turkeys was unbelievable. The investigation showed that there were over 200 people that developed the viral pneumonitis and pneumonia. I've forgotten which one. And this is very important because of the fact that these so-called infected turkeys were scattered throughout the United States in refrigerated boxcars and what's your public policy? And after considerable discussions with the food and drug administration, we decided to let these go forward because here again you had an aerosol infection where they were actually beating with straps the feathers off these turkeys that hung by their necks on a conveyor belt and you were creating an aerosol. Fortunately, tetracycline and its derivatives came along about that time and made this a much less important disease in the next year or so.

There are two other very interesting outbreaks that occurred during this year 1953 and '54. This has to do with your question of making CDC prominent in its reputation. One was anthrax. You know, anthrax was a very rare disease in this country but there was one case of anthrax in a factory that imported goat hair for brushes and so our epidemiologic group put the laboratory branch one up in North Carolina plant and then you could culture anthrax practically anywhere you wanted to with no petry dishes. Well, you might know what that caused in consideration.

Could I mention one other, because I think it's terribly significant because of public policy and that is that as you know, the center has had—even before there was a center—the public health service had a plague laboratory behind the public health service hospital in San Francisco which did a surveillance of the plague in wild rodents of the west. Well, one time during this period of 1954 a call came in that there was suspicion of an intermingling of plague in wild rodents and domestic rodents and this was right in that large mountainous hill on the left hand side coming in from the airport in San Francisco, and this made a very definite problem because if you have plague in an international seaport, what do you do with it? And maybe this would be better off the record but I'll put it on the record.

Our greatest concern was that there was a famous veterinarian by the name of Karl Meyer at the Hooper Foundation who was known as the expert in plague in this country and we knew if he got the information it would become public. What do you do with this information? Well, in today's environment I know what you'd do with it but fortunately a housing development took care of the problem because they did away with the hog farm which was at the foot of this mountain where this occurred and put housing in there and took care of the public health problem. I didn't mean to—

Was the plague lab a part of CDC at that time?

Yes, it was but there was a plague laboratory back in the '30s. I think all these things, in answer to your question, Bill, got VD going in the direction of where it is considered the Citadel or the fountainhead of resources and health in endemics or epidemics that were not—that the state or local health department was not capable of handling.

So you'd built on a success story with malaria, then you got the right people, the best people in different areas and they were accessible. You mentioned another point in the beginning of having land here. Can you say a word about how that came about?

Well, I really can't say how it came about. I do know this; that through some relations, and I would think most likely it was Vonderlehr but I'm not sure but it was during his period, through the relationships with Emory they got Mr. Woodruff interested in the Center for Disease Control and he apparently owned this land here and he told the government if they would build their CDC facility, he would give the land. Well, what happened then was that capital investments or budgets in the government were very scarce and he couldn't even get this through the bureau of the budget—I don't know what it's called now, or the department to make a presentation to Washington. So one afternoon—I don't know how everything happened in the afternoon, but one afternoon I got a call from a man by the name of Boisfeuillet Jones who was at that time the executive secretary of Emory and he said, "Mr. Woodruff has been asking him why something isn't being done with the property; if the government don't want it he'll take it back," you know, very dynamic. So I told him, so the story goes—and I did not sit in the room but I heard it directly from Bo Jones that Mr. Woodruff got President Eisenhower on the telephone at the Cherry Hill Country Club in Denver and said, "Do you have pencil and paper because I've got a question to ask?".

"And what is it?"

He says, "Why isn't the government building that CDC building down there in Atlanta?"

Ike says, "Well send me a note."

He says, "I'm not gonna send you a note, I asked you if you had pencil and paper."

Yeah, I heard that story. That's a great story.

And so the President's office got in touch with the Surgeon General and it wasn't a day or so that I got a call from the Surgeon General asking me why I hadn't done anything

about the building, you know, and to get going on this thing. Well, the Eisenhower administration had a very novel way of building buildings without getting it into the immediate budget or federal debt and that was they passed a law called the Lease Purchase Act. And this is the only special purpose building in the United States that was built under that act. Other buildings were general office buildings or post office with office buildings and so forth. And I think the initial appropriation—or it wasn't appropriation but the initial contract on this building was about \$13 million of which the government ultimately over 23 years paid about \$20 million because they paid interest and so forth. It was done by an outside consortium of two companies that built this, and that's how this building got built after five years of not having any direct recourse because you couldn't be heard.

And that decision to do it that way was made during your tenure as Director of CDC.

Yes and it was dedicated under Dr. Smith.. Larry Smith.

And I was here by that time. I remember that. I attended that.

And we had a very difficult problem on plans because our plans were not what you would want if you could start over again but you didn't have time to start over.

They were kind of old at that point, right? The plans had been developed some years—

Yes, and of course under the old customary way the head of virology laboratory in Montgomery made the plans for the virology building and etcetera. By the time the building got around he wasn't here but it wasn't what the new virologist wanted, which I guess is true of all..... right.

So we owe a debt to Emory for—

Yes. And both of those characters are still alive.

That's right. I wonder if we could go back to the development of the EIS program. You mentioned a little bit about it. Now it seems to me that that's a very unique program, not only in the United States but in the world and can you say something about what was the opposition to developing EIS? How did it really get off the ground?

Well, this might be controversial but I have to say it and I'm old enough to say it. The EIS program is almost the smitten image of Dr. Vonderlehr's program of training young venereal disease officers (break)...36 of three or four million dollars. He took a major part of that money and set up a training program of young medical officers, sending them to Johns Hopkins, to Joseph Stokes's clinic, University of Pennsylvania, to O'Leary's Clinic at Mayo Clinic and so forth, and then he started with the public health reps. Out of this group came two or three surgeons general. In fact, the whole National Institutes of Health special project program, its grant program, was established by Ernest Allen, Cassius VanSlyke and Dave Price, all of whom were doing special projects.

All of whom came out of the VD....

I think this takes nothing away from Alex because I think Alex came here with the express purpose of training young men to serve their place in academia and health departments throughout the country, and I think every honor he's got doing this is well deserved because it wasn't easy. He could have been tripped at any stage of the game but he had big strong legs and big shoes and he just walked over and got what was necessary to do it. I think that I get a little mixed up between EIS program and training of epidemiologists, Epidemic Intelligence Services, had its real impetus or push in 19—I get a little confused because I think in fiscal years which are '54, '55 but it was during that period of time when the National Polio Foundation under the direction of Basil O'Connor who is the law partner of Franklin D. Roosevelt and it was a one-man operation, supported Salk at the exclusion of most other people working in the vaccine area, and came out with the Salk vaccine. This was possibly the greatest impetus to the EIS program and to CDC. It was never questioned after that because what had happened was that as you know, the Cutter vaccine was approved after pilot tests. It was approved for bulk manufacturing and there was an epidemic of deaths principally in Idaho. And we were in the midst of that investigation when Dr. Shuey directed CDC EIS to take over the complete evaluation of Salk vaccine. Prior to that, except for Alex's participation on many advisory committees, the public health service in particular and CDC especially were actually excluded from getting involved in that evaluation because all thrust was placed on Tommy Frances at the University of Michigan and Jonas Salk and that demanded personnel and resources which in turn brought in budgetary funds for it and after that there was never any question.

Could I mention one thing that happened there? It's relevant. It really has nothing to do with EIS. Well, there was some very excellent work being done in the virus laboratory in Polio at this time and under two men, Schaeffer and C.P. Lee—C.P. Lee was a refugee from internal China and a very excellent virologist. You have to recognize the fact in those days you dealt with chimps and monkeys and they finally developed a way of

growing polio in plastic capsules and they had done in mice. But tissue culture was in its infancy, it wasn't used for this. So they actually came out with a type II polio virus that was non-toxic, an A-virulent strain, and we made a poor decision of hoping to try that in humans. And in those days it was common to use mental institutions, children with a mental deficiency, and this was turned down which most likely in retrospect was alright. But out of this came the—with C.P. Lee, or CPL I think they called it, virus, and that was one of the original strains in the Sabin vaccine. I don't know whether this story got lost but at one time it was recognized even in the literature, which I think unusually wonderful development.

So the polio field trials were very important in the establishment of the EIS. In 30 years retrospect, how important was EIS in the development of CDC?

CDC—I was going to say today but I can't speak for today but of yesterday, most important. In fact, in a lot of respects that and the venereal disease program and tuberculosis overshadows all the rest of them I think in the minds of other than public health people.

Earlier you referred to the fact that most of the assignments of EIS officers were through universities. Now that pattern has changed.

It changed very early. It changed with the Salk.

I see.

The Salk incident changed it.

And that's when you started having them at CDC headquarters and in states—

And some of the original people at headquarters were Eichenwald and D.A. Henderson and so forth. They were some of the very original, and there was a gentleman by the name of Clark from the health department in California who came here and stayed a long time as a deputy. We haven't said very much about another program that occurred and I think it's nice for the record, and that is that in 1955 there was a real scare on biological warfare in this country. Up to that time NIH had an appropriation for research in biological warfare defense. Well, when the budget shrunk, through some maneuver CDC was given the directive to take over that program, and they had a very active training and demonstration program on biological warfare and that, again, gave another block to the foundation of CDC and that lasted about three years and it was during the time when people were building shelters for other reasons and so forth.

Was Alex Langmuir head of that?

I think my memory is that a great deal of this turned out to be in the vector area because yellow fever was very prominent at that time. There was almost a directive for us to take over the old Arkansas laboratories and growing mosquitoes by the jillions. But the point I was going to make is that after Alec Tisdale, the training branch was headed by a man by the name of Dr. Edgar Johnwick. Edgar Johnwick was a very unusual man.

He had worked in the VD program, too.

Yeah, he ran the—

Hot Springs.

Hot Springs, Arkansas. Spoke about eight languages. I think he was born in Lithuania.

He was.

Artist, musician and a very dynamic man. Put himself through Harvard Medical School which was pretty tough in those days. And he took over the training branch and he worked very hard on setting up all kinds of training programs for doctors and nurses and so forth, and training was a big element of that. I believe it even went so far as to have personnel assigned to the regional office for that purpose.

You had a question, Bill?

In biological warfare did you have an organizational component in CDC that was responsible for that or was it managed out of the chief's office, and pieces given to the various branches?

Can't answer you. Can't remember. But I remember that I used it for a play thing for a long time. I spent a lot of time with Lederly [Pharmaceuticals]. Lederly was interested because of the vaccines and they were willing to develop audio vision materials for us and Johnwick and I made many trips on this, but I think he headed up as much as anyone. He got disenchanted, when Johnwick had that facility, he didn't like to stay too long anywhere and he ended up as chief of the leprosarium and died of a heart attack, quite a young man.

Edgar B. Johnwick, MD

On Oct 15, 1965, several hundred friends were assembled in the Protestant Chapel of the Public Health Service Hospital at Carville, La. They were gathered around a casket draped with our flag. After a hand salute offered by the honor guard during the closing of the casket, Chaplain Oscar Harris conducted the service with the Roman Catholic chaplain taking part. There, nuns joined in the singing of the hymns, the Jewish rabbi attended, and among the people assembled there were persons of various races, various occupations, and all walks of life. Many of them were leprosy patients. One strong bond united them; they were all friends of Edgar Johnwick, the MOC of the United States Public Health Service Hospital, Carville, who had died suddenly the previous day.

Edgar Johnwick was born in Estonia in 1907. He received his MD degree from Harvard and a Master's degree in Public Health from Johns Hopkins, and studied dermatology at the Mayo Clinic and in Michigan. During the war he was stationed in Italy and England. He did significant work in VD control at the Hot Springs Public Health Service Hospital and was chief of the Training Branch of the Communicable Disease Center in Atlanta. In all of the positions, he was more than successful. But, let us begin with 1956, when Dr.



Johnwick became MOC here in Carville. The history of Carville can be divided into two periods—before and after Edgar Johnwick. Before Johnwick, Carville was an asylum whose main aim was to isolate leprosy patients from society. Today this hospital is an international teaching center and is making significant contributions to leprosy research and rehabilitation of leprosy patients. Its reputation is worldwide, and when

you see here Dr. Stanley Browne and hear that Dr. Paul Brand will join the staff of this hospital this December, you see the results of Dr. Johnwick's visionary planning. The course for military dermatologists is another example of Dr. Johnwick's desire to imbue key groups with a concern for leprosy, a concern equal to his own.

I quote from two of the hundreds of letters of condolence which were received by his widow, Mrs. Hazel Johnwick. The first is an excerpt from a telegram to Mrs. Johnwick from Dr. William H. Stewart, Surgeon General of the Public Health Service:

The skill, imagination and experience, and most of all the warmth of human sympathy which he brought to his task will be greatly missed by all those who knew and worked with him. I hope you and your family in the years ahead will take comfort in his contribution to the health and well being of his fellow human beings throughout the world. They represent a fine and enduring monument.

Arch Derm—Vol 93, May 1966

Retrieved from: <http://archderm.jamanetwork.com/article.aspx?articleid=529792#qundefined>

I knew him.

He was one of the most unusual men I've ever known.

What was the biggest problem you faced during your years as chief of CDC?

What or who?

(Laughter)

I think the thing that I got the most feeling of accomplishment of was saving CDC from the throws of being thrown out because of lack of understanding by the administration and the lack of support from the public health headquarters as to the long term needs.

Can we go into that a little bit? Where was your support in the public health service and where were your problems in the public health service?

Otis Anderson and I, a man as executive director by the name of Richard—

Bunch.

Bunch. And he, like Bill, is one of the unusual executive directors, and he was a strong man. He had his enemies as well as friends. But they fought the battle up at Washington model. If they were here, I'd say the same thing and they're both alive. I never thought that I got any support to amount to anything from the deputy surgeon general and surgeon general. Both of them were classmates of mine in the services. But that wasn't the reason. The reason was that they had enough to say grace over and complications and duplications of efforts and so forth and if it's out of sight, it's out of mind. And this place was before my time very aggressive. You know, this tried to be a bureau before it was a well-established division and the strength was here and it wasn't uncommon to use local and state political strength. Talmadge, was that the governor's name, did go to Washington for them, and we had Dick Russell here and who's the other senator equally as strong?

George?

Yes. And those fellows were breathing down their throat all the time because it was a good revenue resource to the state. I don't know whether I answered or question.

....power structure in those days how CDC related to the public health service where the decisions were made and specifically how much independence did CDC have at that time to decide on what it would do?

Well, I think first let's touch on wherewithal money. After the initial problem of a new administration and reduction, we had a real champion in the republican house and the budget by the name of Heath, Frank Heath. And, of course, on the other side we had John Fogarty and getting money was simple at the congressional level. Sometimes it was difficult to get it through the bureau of the budget and the department, for obvious reasons, their ceilings and so forth, but that never seemed to be as much of a problem as taking care of the reorientation from an engineering entomological group and what do you do with that personnel, many of whom were civil service or commissioned officers. And as far as independence is concerned, the 750 miles or whatever it is between here and Washington was always a great aid, and I would say that I, and the rest of the people in CDC, received a great deal of respect and support from the people in Washington, the Surgeon General's office on down. And it's very interesting to note that this sort of sounds contradictory; one to support and the other's enthusiastic promotion, I think that as time went on we get promoted to—and of course you never see an empty building and once the building plans were improved, it was a matter of getting things done rather than trying to get resources. I recognize the fact that you always have budget restraints regardless of how successful you are. I would say it's possibly one of the most independent jobs in the public health service if any government job can be independent.

On balance you would see the geographic separation as being good rather than bad then.

Well, different for CDC. I'm not so sure it's totally good. I just went through that experience in industry in which I built a research center in the North Carolina research triangle and I think you're forgotten a lot of times when the pie is being cut. That's the only disadvantage I see.

Now you reported to the Director of The Bureau of State Services. He was your superior officer.

That is correct.

In this day of jet airplanes commuting to Washington and back in a day is a way of life for us attending staff meetings and so forth. How often did you sit down with them in Washington?

I would say that I averaged at least Washington every other week and I would fly that horrible constellation through the clouds and thunderstorms during the spring, summer and fall. But during the winter, in order to be sure that you would meet your commitments, you would take that overnight train and that overnight train started about mid-afternoon or a little earlier and, of course, you had to get up about five o'clock in the morning at the other end and it became quite cumbersome. I think that in the first year or so I'd spend a lot of time in the field stations, and we haven't even touched upon field stations but they were very active.

What field stations did you have in those days?

Well, we had Savannah as the quasi field station, we had Greely and encephalitis and ecology of nesting birds and mosquitoes and so forth. We had Wenatchee, Washington and the economic partisans, we had the plague laboratory. During the period of time that we're discussing they developed a very interesting diarrhea and dysentery field station in Cumberland, Kentucky. It's rather interesting that there was a Cumberland, Kentucky and the reason it was established there, those people had more parasites and diarrhea and dysentery than practically anyplace here in foreign countries because their whole method of disposal of human waste material is to build the privy over the creek and that's where they got their water.

A very excellent sanitary engineer who had a lot of background in biology by the name of Don Fleishman headed that up. I have no idea what the end results—and then of course, we had the Thomasville station where they were doing ecological studies on God forbid I can't remember what. And we had the—see, we were just at the end of the period where flies were very important they thought to polio and we had the fly studies. And another thing when Dr. Simmons came in as head of the technology branch, he was one of the most orderly administrators I've ever known. In the first place, when he came for his budget hearings, he always had three budgets. If he wouldn't accept one, he'd pull the other one out of his briefcase. He was a Dutchman who never had a budget, he had a "boojet". He'd say, "Well if you won't buy that one, will you buy this one?"—literally. But he was a magnificent guy. He had ten demonstrations in vector control. We had an excellent demonstration in composting from the standpoint of vector control because down in Arizona they have these tremendous foliage wasting from watermelons, from lettuce and what-have-you and it created a terrific vector problem. Well, you've got the plague laboratory.

In San Francisco.

In San Francisco. We had the schistosomiasis field station in Puerto Rico. I'm sure I left out one or two.

Was Winachee, Washington...?

That was the economic poisons. Do you know how VD got involved in that?

CDC.

...What happened was that was a department of agriculture operation for years and the congressmen from out there didn't feel as if they were getting the proper job done so he automatically transferred that over—that was before my time—to CDC. (Break in audio).

That was in existence when I came in 1957...

And, of course, the people Greely, you know, they followed their nesting birds down to Panama and back.

What other things did you do internationally?

Well, there was quite a bit of representation on the WHO committee. When I was there, I was involved in the laboratory branch of the international committee. We were operationally pretty well confined to this country as I recall, but in the training of course there was a nice portion of foreign visitation for training purposes there.

Did we have requests for epidemic assistance from other countries or from WHO?

Yes, but I can't identify them. I know this; that in the beginning of our program, in my beginning is the wrong way to say it but it's when I came here and there had not been a case of smallpox for several years. I think 1949 was the last case that occurred in the country at that time. Have there been any since?

There have not.

Langmuir prudently sent some of his EIS boys to an endemic or epidemic, endemic or whatever you fellows say, areas for training and we had a surveillance program. There was a lot of false diagnosing going on and that was an opportunity for people. I think they were involved once or twice, and particularly Langmuir himself, in the pahra(?)

breaks around Iraq and so forth. My recollection isn't very good in this area. But the surveillance of smallpox was a real excellent program because surprising I think the records reveal how many requests there were just for that one thing.

The VD program was transferred to CDC shortly after you left CDC. If my memory is right the announcement that it was going to be transferred occurred about six months before that in the summer of 1956. I assume that you had some part in that decision. Could you tell us about that?

The plan had been in the books for several years before it came down. The laboratory came down here when Dr. Mahoney was planning retirement and was going to become commissioner of health in New York City.

It had been in New York.

It was out at Rosebank which was the quarantine station in the narrows on the Staten Island side of New York Harbor and it was a very well supported program, and in fact it not only supported VD, but it supported the early studies of antibiotics and cancer because they thought they had a cancer cure from their penicillin soups there for a while because it was knocking out all the information, I guess, in carcinomatosis. They were very enthusiastic. And nothing was done when Dr. Mahoney was there. That delayed it.

Then there was an opportunity to stop that by political pressures moving it out of the prospect. But it came down here and I believe the first director was Sidney O'Lansky who is still here in the city with Ed Harris and Ed Harris took over. And I think one of the reasons, it was a very orderly approach that when I would leave, that Larry would come down here, Dr. Smith that is, in one or the other positions and—

Who was head of the VD program.

Who was head of the VD, and it would come down at that time. And you always have a problem, you know, of some good men not coming with the operation. I'm trying to think of the guy that developed the RPR test.

From Michigan?

No, from the Staten Island Hospital. Joe Portnoy, Dr. Portnoy. Well, Portnoy made a special case, Portnoy and set a laboratory up in Columbia University for a few years before he came down here as I recall. He got his Ph.D. and then came down.

So that was part of a plan....—

Yes.

....that was developed years before it actually was carried out.

And there was considerable talk on bringing the tuberculosis program down but here again you ran into some—there was a very brilliant and dominant biostatistician who came out of Johns Hopkins who really was internationally known in his evaluation and treatment in incidence and complications and everything else, and he wasn't about ready to move, and there were a couple of others that weren't. And better left unsaid but a women by the name of Perrabie—

Shirley Perrabie.

Shirley Perrabie was, she was the queen .?. of tuberculosis. In other words, she pretty much ran the program as the chiefs moved on through. And she was married to Perrabie who was the chief of all operations at the bureau of the budget on health appropriations. I don't know whether that had anything to do with it, but she didn't want to move.

When the TB program was transferred to CDC, her part of it did not come.

Yeah, that's right. What was the name of the doctor I was thinking of? He's a very well known man.

Wasn't George Comstock?

No, I know George but this man is an older man. He taught me the little bit of biostatistics I took at Johns Hopkins.

When you left CDC, you went to Washington to the Bureau of State Services, CDC's parent organization. Could you tell us a bit about your career after?

Well, I left CDC, there was a new Surgeon General by the name of Leroy Bernie who sort of asked me in a directive if I would come to Washington and because I had the unusual experience that I'd been—he was on board when I came in the service and we were stationed in Kansas City, Chicago previously together and our families grew up together. And I was asked to come up as assistant chief of the bureau and I went up there as assistant chief and then—what happened to Dr. Anderson, my chief? I don't recall. Anyway he left and there was a doctor by the name of Dr. David Price that had been sort of an assistant to the Surgeon General and was very prominent in the department of health and education's office, and a very brilliant man, one of the real scholars. Not a strong leader but one of the nicest—and he came in as chief. That was not a very happy period for me because I developed a cocksackie polio-like paralysis

and thank God he was chief although I, you sort of felt passed over because...but I understood that. And the other reason was that Dave was a do-it-your-selfer. So I had all the freedom in the world and yet I never felt as if I had a responsibility. You know, the feeling of that. And there was a young fellow that had just got out of Harvard that we brought in for training. His name was Dr. David Sencer and he sat next. And then doctor—I'm not rambling, I'm just taking a long time. Then Dr. Shannon couldn't find an appropriate deputy for the National Institutes of Health and so they finally said would—there's gotta be someone. He says, well if you'll give me Dave Price as deputy, I'll go out to—so they went to Dave and Dave, being a good solidier, he actually went from chief of the bureau which had more operating responsibility—not as much money but most of that was grant money—to deputy. And I think he was happier. He was one of the real top professional staff men.

He subsequently became deputy surgeon general.

And then he became deputy surgeon general and he was a very excellent deputy. I think he's too nice to make tough decisions personally, personnel decisions on occasion. And then I became chief.

Of the bureau.

Mm-hmm.

And it was from that position that you retired.

Retired. I retired July 1, 1962. I had gone in the service from a gradation standpoint when I was 23, so I had 29 plus, and with some months, years active service and I had two in college and one not in school yet and one in second grade. Literally there was no place to go. I knew I couldn't remain a bureau chief the rest of my life, nor did I want to. So when I was in Chicago there had been two vacutainer tubes prior to the vacutainer tube. One was a Shepherd tube and the other was a Kidel(?) which you had used in the field and I'd used in the field. So when I was a venereal disease control officer for the city of Chicago, they brought this young guy with a vacutainer tube out to see me and I bought the first 50,000 he had and never bought another one in my life, and I made this lasting, friend and I was being bugged all the time as I didn't want to go anywhere. They would like to have me come with VD and that's how I got with VD. My only other—I looked at three other positions and two were in California and one in Florida, and I decided I didn't belong in academia because I hadn't learned the English language yet, you know, so I went.... And at that time they were mainly a hardware company; needles, syringes, vacutainer tubes, Ace bandages and thermometers, and they did own BBL which was pretty well isolated because the guy that owned it before selling it to us still ran it. Even put in his own computer because he didn't like the programming on the central one and so it was pretty independent. And I was the first medical officer of biological sciences, I guess, and I was lucky. And our gross was \$56 million then and it's now a billion. Now it's a real science company. It's got all kinds of Ph.D.s hanging around.

The final question I have—and you may have some other ones, Bill—if you did not have the restraints of getting through the bureau of the budget and so forth, what would you have liked to have done differently during those years?

Personally or program-wise?

I think program. What would you have done you weren't able to do? Maybe answer both of those, personally and program.

I think personally I would have developed myself. Because this is on my mind I'll say it; I'm not a good communicator and that's a rather sense in reluctance on my own self because I was a stutterer as a child. I had to get that one out of the way. The second one is that I believe that I would have been more dynamic in seeking out programs. What kind of programs? I think, you know, there are a couple of programs, two or three programs I think that never reached their potential in the public health service. One is chronic disease. I know that's an ash can but there's a lot to chronic diseases: outpatient home care, nursing homes, so forth and so on. The other is categorical chronic diseases which is sort of lost on the wayside.

So you would have gone beyond the infectious diseases to other parts of public health.

Yes.

Was there much talk about doing that at that time?

I think over the luncheon but never officially. And some of this might be a little bit of hindsight and foresight, and maybe I'm just imagining. It's hard to tell after 30 years whether or not, but I think that my whole interest in administration has been building. I'm not a detailist. I tire easily of programs.

Well, it was a remarkable period of time and I suspect that for many people they've already lost the feeling of how public health changed particularly with the introduction of a vaccine against polio. Bill, do you have any questions?

No, I don't have anything else. Do you have anything that you would want to share?

I think one of the things that impresses me is how crude our tools were. You know, all your vaccines were literally biological soups of one kind or another. Electrophoresis was an instrument about six feet long and two feet wide. Some of the tests that are routine now were completely evasive. Certain laboratories thought they had hepatitis virus and then they'd lose it. You had to put—I remember when Charlie Shepherd came along—a phenomenal thing—he grew an acid-fast bacillus on [monkey] footpads and then six months the tissue had leprosy. And in retrospect it's very difficult to—the

only other thing I would have done is (break in audio)...But that was a rather insignificant program to an operator. It was \$30,000 of a \$19 million budget so in retrospect you'd do that but I don't think respective you'd ever have done it. But see, now I've given the answer, I've forgotten the question, Bill.

I think that you've answered it. I think the point is that that really was an important part of the growth period of CDC in that it became the time when infectious diseases were seen as our specialty and that we could do things that states could not do on their own.

And I think there's another important factor and that is that there was a real void to fill. National Institute of Health just before the National Institutes of Health made its progress and its reputation on literally what CDC does today. The McCoy's and tularemia, yellow fever, the role of Dwyer in typhus and so forth, they did that by answering a call in the field and taking it back and working it out and I think a lot of people lost—and they no longer had that interest at all by the time CDC was created but I think CDC, in all due respect, was created in the minds and on the paper of Dr. Mountin most likely, who was a great communicator.

Never knew him.

He knew how to use the editorial people and so forth.

Well, thank you very much.

END.



This photograph showed some of the Centers for Disease Control and Prevention's past directors who had attended a 1992 gathering that celebrated the organization's 46th anniversary.

Seated in front row (left to right), were former CDC directors Dr. Robert J. Anderson (1956 - 1960), Dr. [Theodore J. Bauer \(1953 - 1956\)](#), and Dr. Mark D. Hollis (1944 - 1946). Standing, (left to right) was the CDC's Director at that time, Dr. William L. Roper (1990 - 1993), former Deputy Director, Dr. Donald Hopkins (1984 - 1987), former Directors, Dr. James O. Mason (1983 - 1989), and Dr. James L. Goddard (1962 - 1966), followed by CDC's William Watson, historian Dr. Elizabeth Etheridge, former Director, Dr. David J. Sencer (1966 - 1977), and former Deputy Director, Dr. Walter Dowdle.

<http://phil.cdc.gov/phil/details.asp?pid=7732>